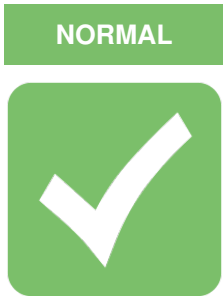
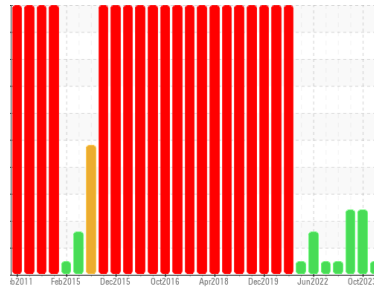


OIL ANALYSIS REPORT



Area
KEMP QUARRIES / MUSKOGEE SAND [68122]
Machine Id
WLO42
Component
Front Right Final Drive
Fluid
PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)

Sample Rating Trend



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: PM-2 sampled fluid)

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | PCA0086503 | PCA0087043 | PCA0084512 |
| Sample Date | Client Info | | 11 Jan 2024 | 24 Oct 2023 | 11 Jul 2023 |
| Machine Age | hrs | Client Info | 33041 | 33553 | 32072 |
| Oil Age | hrs | Client Info | 33041 | 33553 | 32072 |
| Oil Changed | Client Info | | N/A | Changed | Changed |
| Sample Status | | | NORMAL | ABNORMAL | ABNORMAL |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|-------|-----------|------------|------------|----------|----------|
| Water | WC Method | >0.2 | NEG | NEG | NEG |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >800 | 267 | ▲ 903 | 466 |
| Chromium | ppm | ASTM D5185m >10 | <1 | 2 | 2 |
| Nickel | ppm | ASTM D5185m >5 | 0 | 1 | 2 |
| Titanium | ppm | ASTM D5185m >15 | <1 | 1 | 2 |
| Silver | ppm | ASTM D5185m >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >75 | 3 | 8 | 34 |
| Lead | ppm | ASTM D5185m >10 | 0 | 0 | ▲ 10 |
| Copper | ppm | ASTM D5185m >75 | 6 | 14 | ▲ 106 |
| Tin | ppm | ASTM D5185m >8 | <1 | <1 | ▲ 6 |
| Vanadium | ppm | ASTM D5185m | <1 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|------------------|-------------|----------|----------|
| Boron | ppm | ASTM D5185m 2 | 2 | 4 | 2 |
| Barium | ppm | ASTM D5185m 0 | 0 | 19 | 0 |
| Molybdenum | ppm | ASTM D5185m 0 | 4 | 2 | 2 |
| Manganese | ppm | ASTM D5185m 0 | 2 | 8 | 5 |
| Magnesium | ppm | ASTM D5185m 9 | 54 | 24 | 25 |
| Calcium | ppm | ASTM D5185m 3114 | 2866 | 3254 | 2604 |
| Phosphorus | ppm | ASTM D5185m 1099 | 893 | 986 | 959 |
| Zinc | ppm | ASTM D5185m 1245 | 1022 | 1174 | 1160 |
| Sulfur | ppm | ASTM D5185m 7086 | 3957 | 7765 | 4532 |

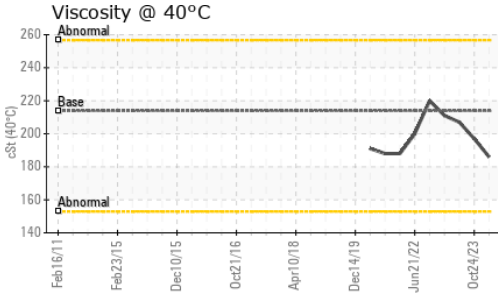
CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|-----------|----------|----------|
| Silicon | ppm | ASTM D5185m >400 | 41 | 88 | 210 |
| Sodium | ppm | ASTM D5185m | 1 | 4 | 2 |
| Potassium | ppm | ASTM D5185m >20 | 0 | 3 | 12 |

VISUAL

| | method | limit/base | current | history1 | history2 |
|------------------|--------|---------------|--------------|----------|----------|
| White Metal | scalar | *Visual NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual NONE | NONE | NONE | NONE |
| Precipitate | scalar | *Visual NONE | NONE | NONE | NONE |
| Silt | scalar | *Visual NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual >0.2 | NEG | 0.2% | NEG |
| Free Water | scalar | *Visual | NEG | NEG | NEG |

OIL ANALYSIS REPORT

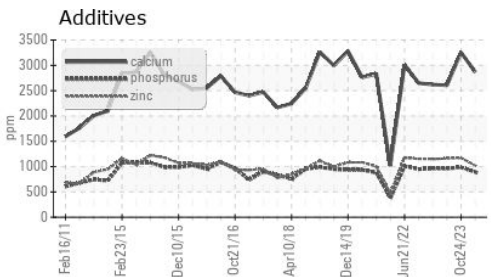
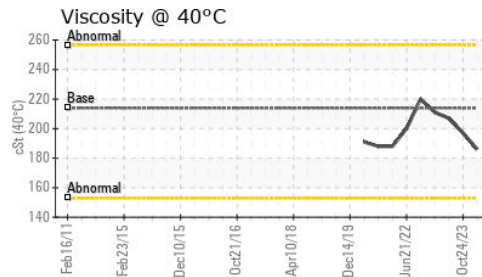
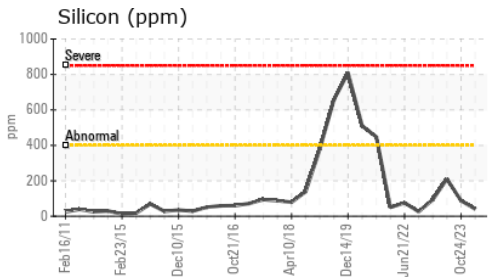
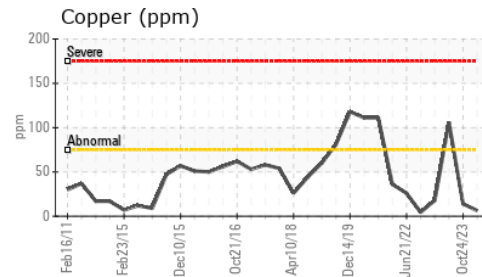
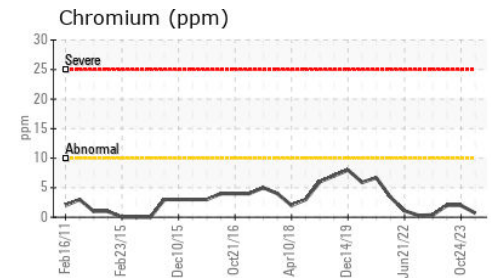
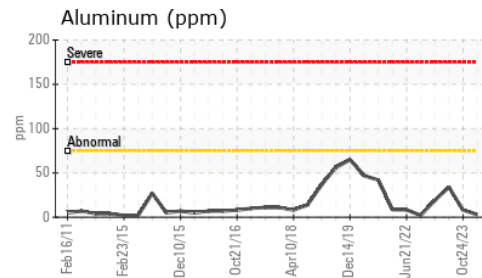
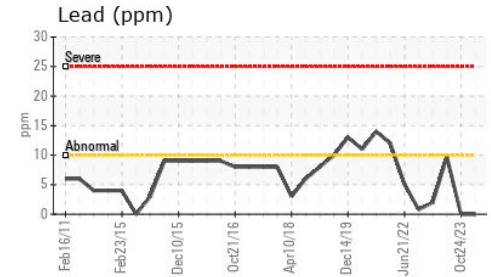
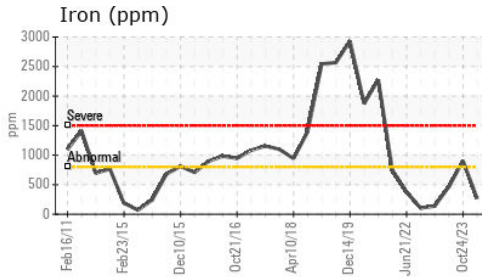


| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|------------------|-----|-----------|------------|------------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 213.9 | 186 | 197 | 207 |

| SAMPLE IMAGES | | method | limit/base | current | history1 | history2 |
|---------------|--|--------|------------|---------|----------|----------|
|---------------|--|--------|------------|---------|----------|----------|

| | | | | |
|--------|--|----------|----------|----------|
| Color | | no image | no image | no image |
| Bottom | | no image | no image | no image |

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0086503
Lab Number : 06067940
Unique Number : 10844617
Test Package : MOB 1

Kemp Quarries - Muskogee Sand
 3395 W 50th St N
 Porter, OK
 US 74454

Contact: MUSCOGEE NOTIFICATIONS
 muskogee@muskogeessand.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

T:
F: